P-9.7 Exemplify the relationship between velocity and pressure by using Bernoulli's principle.

Revised Taxonomy Level 2.2-B Exemplify conceptual knowledge

Students did not study this principle in physical science

It is essential for students to

- Understand that Bernoulli's principle states that when the speed of a fluid increases, the pressure in the fluid drops
- Distinguish between the pressure in the fluid and the pressure by the fluid on something that interferes with its flow.
- Use Bernoulli's principle to explain familiar phenomena
  - How the shape of an airplane wing affects lift
  - How the shape of bird's wings allow them to fly
  - Why the spin of a baseball causes it to curve.
  - Why a shower curtain moves inward, toward the water flow when the shower is turned on.

Assessment

The verb exemplify means to find a specific example or illustration of a concept or principle, therefore the major focus of assessment will be for students to illustrate how Bernoulli's principle is responsible for each of the examples given above. Conceptual knowledge requires that students understand the interrelationships among the basic elements within a larger structure that enable them to function together; in this case for students to understand how fluid velocity and pressure are interrelated in each of the examples.